

## Model Question Paper-2 with effect from 2019-20 (CBCS Scheme)

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### Fourth Semester B.E. Degree Examination Material Science18CH44

TIME: 03 Hours

Max. Marks: 100

Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	Marks
Q.01	a	Discuss classification of Engineering Materials based on their level of structure.	L2	10
	b	Explain Miller indices of crystal planes and directions.	L2	10
OR				
Q.02	a	What are the different forms of silicate structure ? Explain	L2	10
	b	Define the terms i) Primary and secondary bonds ii) Electron affinity and Electro negativity iii) Polymers iv) Metal and alloys	L1	10
Module-2				
Q. 03	a	What are imperfections? Discuss its Classifications	L2	10
	c	Explain Edge dislocations, Tilt Boundaries and Twin boundaries with neat sketches.	L2	10
OR				
Q.04	a	Discus Eutectoid and Peritectoid systems in detail.	L2	10
	b	Explain Iron- cementite Diagram with the help of neat diagram.	L2	12
Module-3				
Q. 05	a	How Fractures are classified ?Explain different types of fracture	L2	10
	b	Explain Voigt Kelvin and Maxwell models with neat sketches.	L2	10
OR				
Q. 06	a	Explain the following terms i) Normalizing ii) Quenching iii) Cyaniding iv) Tempering	L2	20
Module-4				
Q. 07	a	Explain Direct corrosion and Electrochemical corrosion	L2	10
	b	What are high temperature corrosion, Explain	L2	10
OR				
Q. 08	a	What is control and prevention of corrosion modifications of corrosive environment? Explain	L2	10

	b	Explain cathodic protection and protective coatings.	L2	10
<b>Module-5</b>				
Q. 09	a	Explain Mechanical, Electrical and Thermal properties of Refractories and glasses.	L2	12
	b	Discuss Lead and its alloys briefly	L2	08
OR				
Q. 10		Write a short note on, i) Polymorphism ii) Polymerization iii) Organic materials iv) Organic protective coatings	L2	20

\*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.

QUESTIONS	CO'S	PO'S
1	1	1 and 6
2	1	1 and 6
3	2	1 and 6
4	2	1 and 6
5	3	1 and 6
6	3	1 and 6
7	4	1 and 6
8	4	1 and 6
9	5	1 and 6
10	5	1 and 6